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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,798	02/18/2004	Simon Treadwell	PA-214	9618

7590 11/15/2005

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EXAMINER	
WASHBURN, DANIEL C	
ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/779,798	TREADWELL ET AL.	
	Examiner	Art Unit	
	Dan Washburn	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *18 February 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

Claims 10, 14, and 21 are objected to because of the following informalities:

The last two lines of claim 10 read, "...the deceleration of said apparatus, the velocity, of said apparatus and..." They should read, "...the deceleration of said apparatus, the velocity of said apparatus, and..." The comma after velocity is incorrect and should be removed.

The second to last line of claim 14 reads, "said processor programmed to received said radio signals" It should read, "said processor programmed to receive said radio signals" The word received should be changed to receive.

The second to last line of claim 21 reads, "moving said GSP receiver" It should read, "moving said GPS receiver" GSP should be changed to GPS.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 2, 6-10, 15, 16, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Elliott (US 6,868,338).

As to claims 1, 15, and 16, Elliot describes a method of electronic gaming utilizing an electronic gaming unit, or apparatus, wherein real time movements of one or more individuals or players are recorded for later replay in a virtual reality domain, the method and apparatus comprising: a GPS receiver for receiving a plurality of GPS signals from a plurality of orbiting satellites and directing the received signals to a processor programmed to calculate the position of the GPS receiver relative to the surface of the earth based upon the received GPS signals; a memory module operatively connected to the processor, storing data corresponding to the calculated position of the GPS receiver and data corresponding to the movement of the GPS receiver for a time interval, the memory module further storing data corresponding to specific events experienced by an operator of the apparatus during the time interval;

and means to permit the data corresponding to the movement of the GPS receiver and data corresponding to events experienced by the operator to be downloaded into the memory of a secondary processor for replaying and simulating the movement of the GPS receiver and operator in a virtual reality domain. For example, Elliot offers Figure 1, which illustrates a system, including location recording device 10 and management station 12, that records position data of a user as he moves along a path. The location recording device 10 is considered a GPS receiver as it communicates with GPS satellites that orbit the earth's atmosphere column 2 lines 46-59. Figure 2 illustrates a block diagram of the components that make up the location recording device 10. The location recording device includes an antenna 22, a mobile receiver 24, a microprocessor 26, a memory 28, a power supply 30, and an activation switch 32. When the location recording device 10 is activated the microprocessor 26 executes a program that polls the receiver 24 for raw position data 20p sent to the mobile receiver 24 from the GPS satellites 20 column 2 lines 60-64 and column 3 lines 2-6. Figure 3 describes a flowchart 34 of an algorithm for reading and storing raw position data 20p. The microprocessor 26 takes in raw position data 20p for an interval of time and then stores this position data and the corresponding time data in the memory 28 for a user specified time interval column 5 lines 31-46. Finally, the user can download this information into the memory of a second processor, within a second computer system, using a wired or wireless transfer of raw position data column 6 lines 48-55. The second computer system provides a visual context for the raw position data by combining it with terrain visualization data. The final result is that the user can playback

the recorded trajectory path as a video game-like interactive, virtual reality experience. The location recording device 10 is therefore considered part of an electronic gaming unit where one or more individuals are recorded for later replay in a virtual reality domain. The system is described in one example as recording a specific ski run of a user, which is considered a specific event, that illustrates the user and potentially other users skiing down the slope column 7 lines 65-67 and column 8 lines 1-14.

Regarding claim 2, Elliot describes an apparatus that is received and contained within a portable, handheld housing and is powered by an independent internal power supply. For example, Elliot includes that a user should wear or hold location recording device 10, of Figure 1, while traveling along a trajectory path 16 over terrain, which is interpreted as a device contained within a portable, handheld housing, and he further describes that the location recording device 10 includes a power supply 30, of Figure 2, which is considered an independent internal power supply column 2 lines 46-65.

Concerning claims 6 and 20, Elliot discloses a method and apparatus wherein the memory module includes a removable portion, the data corresponding to the calculated position of the GPS receiver, the movement of the GPS receiver and the specific events experienced by an operator of the apparatus stored in the removable portion of the memory, the removable portion of the memory capable of being disconnected from the apparatus for independent connection to the secondary processor. For example, Elliot describes that a participant can record a trajectory path to the memory of the location recording device, then remove the memory and insert it

into an interface for a second computer system so the second computer system can access the raw position data for processing column 6 lines 48-60.

With regard to claims 7-9, Elliot describes an apparatus including one or more inertia measurement sensors connected to the processor, wherein the inertia measurement sensors include one or more accelerometers and one or more gyroscopes. For example, Elliot includes that along with GPS as a means to generate trajectory path data, known inertial navigation techniques can also be employed, such as accelerometers and gyroscopes column 4 lines 15-26.

As to claims 10 and 22, Elliot describes an electronic gaming unit, or apparatus, wherein upon receipt of signals from one or more inertia measurement sensors and receipt of signals from the GPS receiver the processor calculates and records in the memory module one or more of the location of the GPS receiver, the attitude of the apparatus, the acceleration of the apparatus, the deceleration of the apparatus, the velocity of the apparatus and the time associated with the movement of the apparatus. For example, Elliot describes that inertial navigation techniques may be used to obtain position data, translational motion by measuring inertial specific force, which is considered measuring acceleration and deceleration, and orientation by measuring rotation in inertial space, which is considered measuring attitude. The processor uses all of this information to decide where the user is and how far the user has moved, which is all recorded in the system's memory for playback at a later time column 2 lines 15-42.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3, 4, 11-14, 17, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot (US 6,868,338) in view of Tranchina et al. (US 6,765,528).

Concerning claims 3, 4, and 17, Elliot describes a method and apparatus that tracks the movement of a user via a GPS tracking system, as discussed in the rejection of claim 1. Elliot doesn't describe that there is a display panel operatively connected to the processor to visually display the position of the GPS receiver on an overlay map or grid wherein the display panel comprises an LCD screen.

However, Tranchina describes a mobile radio with GPS capability that includes an LCD screen display panel that is operatively connected to the processor to visually display the position of the GPS receiver on an overlay map or grid column 2 lines 11-17, column 5 lines 38-42, and column 6 lines 53-67, and column 4 lines 1-7. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Eliot the LCD screen as taught by Tranchina in order to increase the functionality of the GPS tracking device by giving the user a dynamically changing visual reference as to his location on the map rather than a GPS tracking device that just saves the location information to memory and requires that the information be loaded into a second computer system before the user can see the exact areas explored or traveled.

Regarding claim 11, Tranchina describes an apparatus wherein the overlay map or grid is indicative of the geography and man-made structures associated with the portion of the earth's surface within which the GPS receiver is located. For example, Tranchina describes a map page, which displays the user on a map of the current location. The center of the displayed map changes according to the user's movement column 7 lines 1-7. Tranchina also describes that the user can set waypoints, which are user-selected specific geographical or man-made objects along a traveled route column 5 lines 3-7.

As to claims 12 and 21, Elliot describes a method and an apparatus wherein the overlay map or grid is indicative of a fictitious location or includes fictitious objects, the method including the further step of moving the GPS receiver over the face of the earth corresponding to a pre-determined path on the overlay map or grid of the fictitious location. For example, Elliot includes using terrain visualization data to generate a reference terrain that will be combined with the user's trajectory path when a trajectory path is created column 7 lines 3-17. Elliot further describes that the terrain visualization data can be altered to include fanciful, imaginary environments column 8 lines 18-29. This fanciful, imaginary environment is considered to be creating a fictitious location or fictitious objects. Elliot doesn't include that this terrain information is dynamically presented to the user on the display as his position information is recorded.

However, Tranchina describes dynamically presenting a map of the user's current location including allowing the user to set waypoints at geographical or man-made objects, as discussed in the rejection of claim 11. It would have been obvious to

one of ordinary skill in the art to include in Elliot dynamically presenting location information to the user as taught by Tranchina in order to give the user the opportunity to dynamically see the fictitious objects or fictitious environment that will be used as a background for the playback of the user's recorded trajectory information so the user can more realistically interact with the virtual environment as he moves along a pre-determined path on the overlay map or grid of the fictitious location.

With regard to claim 13, Elliot describes an apparatus that tracks the movement of a user via a GPS tracking system, as discussed in the rejection of claim 1. Elliot doesn't describe that the apparatus includes a radio receiver operatively connected to the processor, the radio receiver receiving radio signals from an independent radio transmitter, the radio signals causing the processor to display information on the display panel or causing the processor to alter images displayed on the display panel.

However, Tranchina includes a GPS tracking system that includes a radio receiver operatively connected the processor, the radio receiver receiving radio signals, in this case relative position information, from another mobile radio, which is considered an independent radio transmitter, as it is a radio transmitter and it is independent of the receiving radio. The radio signals cause the processor to display information regarding the location of the transmitting location, as well as current/average/maximum speed and other travel/navigation details column 3 lines 13-35. It would have been obvious to one of ordinary skill in the art to include in Elliot a radio receiver that receives signals from a radio transmitter and causes the processor to display information on the display panel in order to allow the user to dynamically see and interact with other people who have the

same or a similar GPS tracking system. The advantage of radio communication is that users can actively find or monitor someone who has a GPS tracking system, which is useful if someone becomes missing from a group of people or two individuals are moving at a high speed and appear to be on a collision course in low visibility.

Concerning claim 14, Tranchina describes an apparatus including a radio transmitter and a radio receiver operatively connected to the processor, the radio receiver receiving radio signals transmitted by one or more other apparatuses wherein the radio signals are indicative of the location of the one or more other apparatuses, the processor programmed to receive the radio signals and identify the position of the one or more other such apparatuses on the display panel. For example, Tranchina includes a mobile radio that transmits and receives radio frequency signals to other mobile radios. Tranchina further includes that the transmitting and receiving can be accomplished with a transceiver or with a transmitter and receiver as separate components column 4 lines 58-65. Tranchina also describes that the mobile radio with GPS functionality can send position information of one or more users of a mobile radio to one or more other users column 3 lines 22-35. Along with position information the user can also transmit other travel/navigation information such as current/average/maximum speed, or bearing and heading.

Regarding claim 18, Elliot in view of Tranchina describes a method wherein the GPS receiver, the processor, the display panel and the memory module are contained within a portable handheld housing, the movement of the GPS receiver comprising an individual traversing an area or a pre-determined course over the face of the earth while

carrying the portable handheld housing. For example, Elliot in view of Tranchina describes an LCD screen in combination with a GPS receiver that also comprises a processor, and a memory module, as discussed in the rejection of claims 3, 4, and 17. Elliot further describes that the GPS receiver, processor, and memory module are contained within a portable handheld housing, the movement of the GPS receiver comprising an individual traversing an area or a pre-determined course over the face of the earth while carrying the portable handheld housing. For example, Elliot includes that a user should wear or hold location recording device 10, of Figure 1, while traveling along a trajectory path 16 over terrain, which is interpreted as a device contained within a portable handheld housing column 2 lines 46-59.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot (US 6,868,338) in view of Tranchina et al. (US 6,765,528) as applied to claim 3 and further in view of Fan et al. (US 6,452,572).

As to claims 5, Elliot in view of Tranchina describes a method and apparatus comprised of a GPS receiver, memory, a processor, and a display panel designed to visually display the position of the GPS receiver on an overlay map or grid, as described in the rejection of claim 3. Elliot in view of Tranchina doesn't describe an apparatus wherein the display panel comprises a heads-up display formed through the projection of an image onto the surface of a visor worn by an operator of the apparatus.

However, Fan describes an apparatus wherein the display panel comprises a heads-up display formed through the projection of an image onto the surface of a visor worn by an operator of the apparatus. For example, Fan offers Figures 47A-47D, which

illustrate a display that is mounted above the field of view of a user and which projects an image onto a transparent monocular or binocular system, which can also be considered a visor, in front of the user's eyes column 22 lines 15-33. Fan also describes that the display unit can include a GPS sensor for accurately determining the position of a user. He offers an example of a firefighter who can use the device to establish his location in a burning building and a safe path out of the burning building column 17 lines 30-67 and column 18 lines 1-12. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Elliot in view of Tranchina the heads-up display as taught by Fan in order to give the user the option of keeping his hands free while operating the GPS receiver. The advantage of a heads-up display is that the device becomes applicable to dangerous scenarios where the user needs full mobility or is in an area of low visibility.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot (US 6,868,338) in view of Fan et al. (US 6,452,572).

With regard to claim 19, Elliot describes a GPS receiver that tracks the location of a user, as described in the rejection of claim 1. Elliot doesn't describe that the GPS receiver further includes a processor that is operatively connected to a heads up display, the method including the step of causing the processor to activate the heads up display to project an image of an overlay map or grid for viewing by an individual and to display the relative movement of the GPS receiver on the projected overlay map or grid.

However, Fan describes a method wherein a processor is operatively connected to a heads up display, the method including the step of causing the processor to

activate the heads up display to project an image of an overlay map or grid for viewing by an individual and to display the relative movement of the GPS receiver on the projected overlay map or grid. For example, Fan offers Figures 47A-47D, which illustrate a display that is mounted above the field of view of a user and which projects an image onto a transparent monocular or binocular system, which can also be considered a visor, in front of the user's eyes column 22 lines 15-33. Fan also describes that the device includes a GPS sensor for accurately determining the position of a person, for example, a firefighter. The GPS information combined with building schematics provided by the CPU provide a firefighter with his exact position within the building column 17 lines 65-67 and column 18 lines 1-12. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Elliot the heads-up display that projects an image of an overlay map or grid for viewing by an individual and to display the relative movement of the GPS receiver on the projected overlay map or grid as taught by Fan in order to give the user the option of keeping his hands free while operating the GPS receiver. The advantage of a heads-up display is that the device becomes applicable to dangerous scenarios where the user needs full mobility or is in an area of low visibility.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fry (US 6,002,982) describes a sports computer with GPS receiver and performance tracking capabilities.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Washburn whose telephone number is (571) 272-5551. The examiner can normally be reached on Monday through Friday 8:30 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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